

INCH-POUND

MIL-C-49285/14
19 October 1989

MILITARY SPECIFICATION SHEET

CABLE, SPECIAL PURPOSE, ELECTRICAL, ONE INDIVIDUALLY SHIELDED
PAIR OF 20 (7 X 28) AWG

NOTE: NOT FOR AEROSPACE USE.

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-C-49285.

Engineering information: (See table I).

TABLE I. Description, electrical.

Electrical characteristics	Requirements
Nominal capacitance between conductors	27 pF/ft (picofarads/foot)
Nominal capacitance between the conductor and the shield with one conductor tied to the shield	49 pF/ft
Continuous working voltage	300 V rms maximum between conductors
Shield dc resistance	9.3 ohms/1,000 feet maximum

TABLE II. Description, physical.

Components	Construction details
Number of pairs	One individually shielded
Conductor type and wire size	Stranded tinned copper 20 AWG
Conductor stranding	7 X 28 AWG
Conductor insulation	Polyethylene
Conductor insulation thickness	0.016 inch nominal thickness
Drain wire type and size	Stranded tinned copper 20 AWG
Drain wire stranding	7 X 28 AWG
Jacket material	Polyvinyl chloride
Jacket thickness	0.026 inch
Finished cable diameter	0.214 inch maximum outside diameter
Cable style (UL)	2092
Tensile strength (jacket)	2,000 pounds per square inch minimum
Elongation (jacket)	150 percent minimum
Overall cabling lay length	8.0 twists per foot ± 10 percent

REQUIREMENTS:

Design and construction: (See table II).

Shield color code. The shield color shall be blue.

Shield location and orientation. The polyester aluminum is to be located on the outer circumference of the shield, with the aluminum side outward. Insulation on the interior of the shield is to be complete with no aluminum available for contact.

Drain wire location. The drain wire is to be spirally located between the shield and jacket and is to be in continuous contact with the aluminum surface of the foil shield throughout the cable.

Cable temperature rating. The cable temperature rating shall be -20°C to $+80^{\circ}\text{C}$.

Conductor color coding. The first conductor is black, the second conductor is natural (clear).

Shield integrity test.*

<u>Frequency</u>	<u>Response **</u>
100 kHz	115 dB below reference
500 kHz	106 dB below reference
1 MHz	98 dB below reference
5 MHz	80 dB below reference
10 MHz	71 dB below reference
15 MHz	66 dB below reference
20 MHz	61 dB below reference
25 MHz	57 dB below reference
30 MHz	54 dB below reference

* Any two readings may deviate to a value of 0.9 times the stated limits.

** All values are a minimum numerical value.

Fixture resonance will occur between 40 and 70 MHz.

At 100 MHz: At least 41 dB below reference.

Flammability. The cable shall pass UL 1581 Vertical-Tray flame test requirements.

Crosstalk test limits. Crosstalk testing is not required for this configuration.

Durometer hardness. The cable jacket shall have a "Shore A" hardness of 82 ±5.

Part or Identifying Number (PIN): The PIN shall be M49285/14.

CONCLUDING MATERIAL

Custodians:
 Army - CR
 Navy - SH
 Air Force - 85

Review activities:
 Army - MI
 Air Force - 71
 ULA - ES, IS

Preparing activity:
 Army - CR

Agent:
 DLA - ES

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